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Patent
270/070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

LANGENFELD, John

Serial No.: 10/044,716

Filed: January 11, 2002

For: BONE MORPHOGENETIC
PROTEIN-2 IN THE TREATMENT AND
DIAGNOSIS OF CANCER

Group Art Unit: 1645

Examiner: To Be Assigned

TRANSMITTAL OF FORMAL DRAWINGS

Attention: Official Draftsperson
Commissioner for Patents
Washington, D.C. 20231

Sir:

Transmitted herewith for filing in the above-referenced application are the formal drawings (15 sheets), as required by the Notice to File Missing Parts dated March 14, 2002.

Respectfully submitted,
LYON & LYON LLP

Dated: 5/14/02

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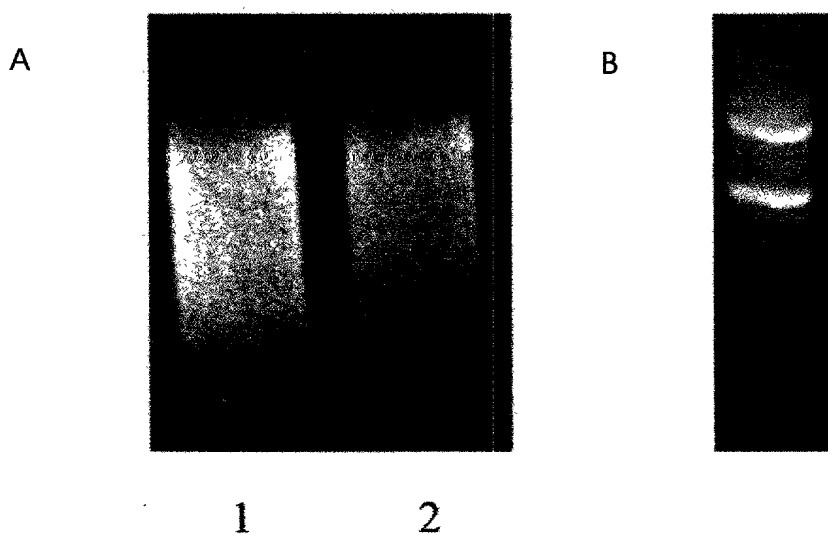
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Melody K Gutierrez

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C

1. Alpha-1-antitrypsin
2. Bone Morphogenetic Protein 2
3. Cytokeratin 6
4. Lambda Light Chain

Fig. 1

02/15

RT-PCR for BMP-2 in Human Lung Tumors

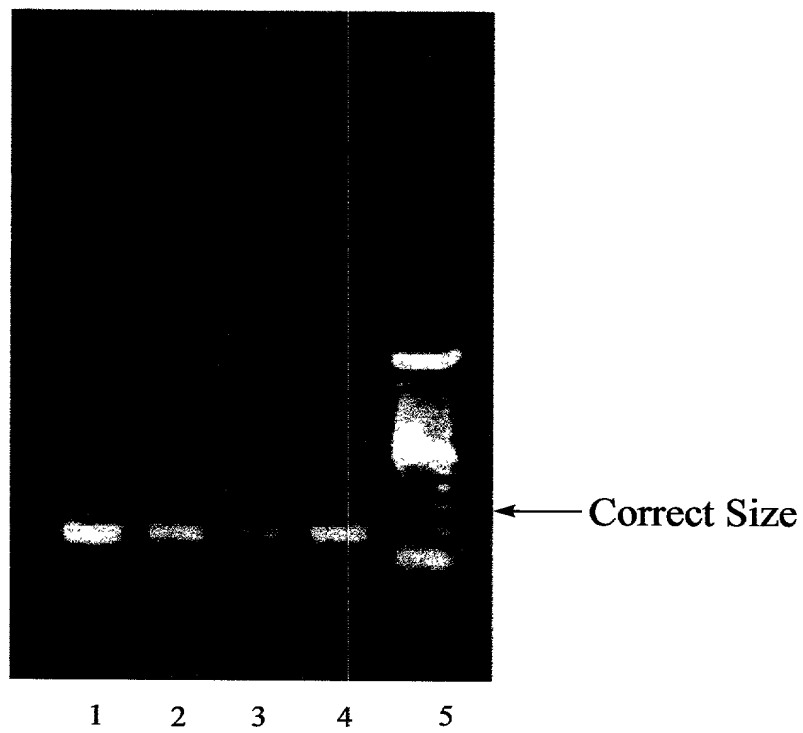


Fig. 2

03/15

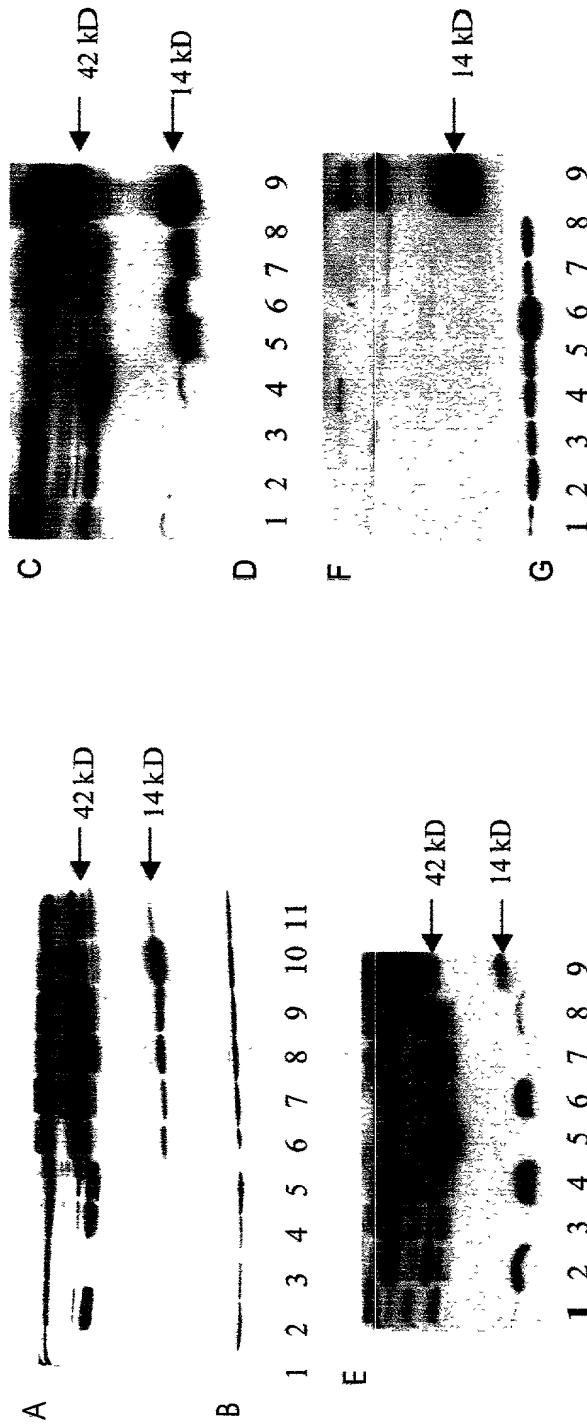


Fig. 3

04/15

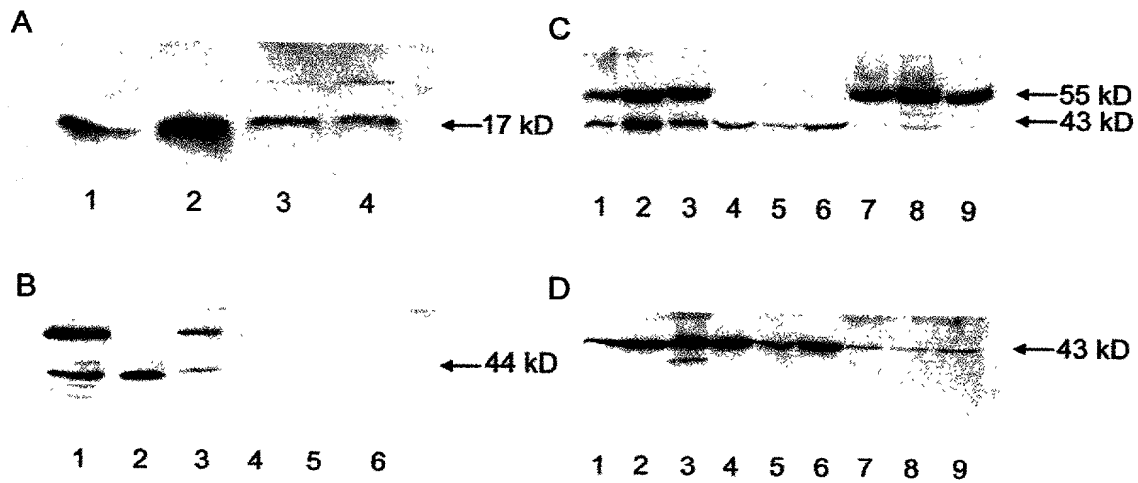


Fig. 4

05/15

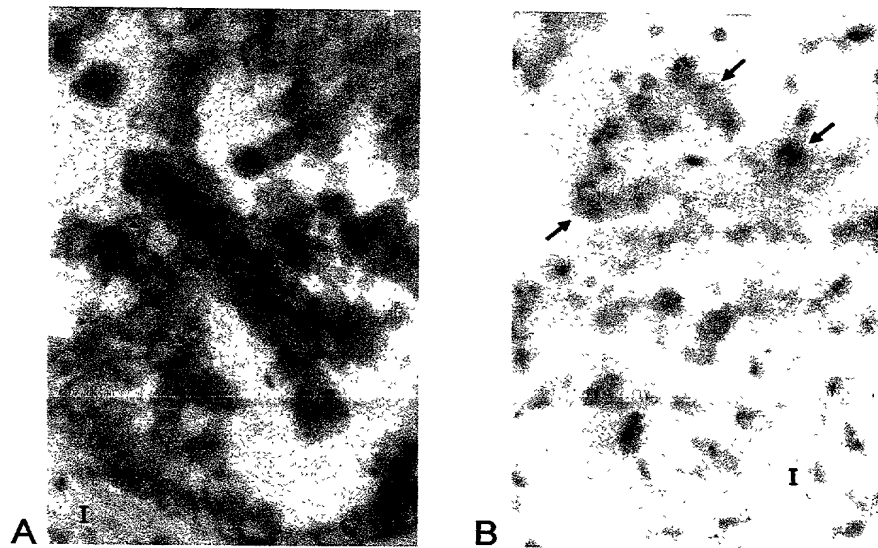


Fig. 5

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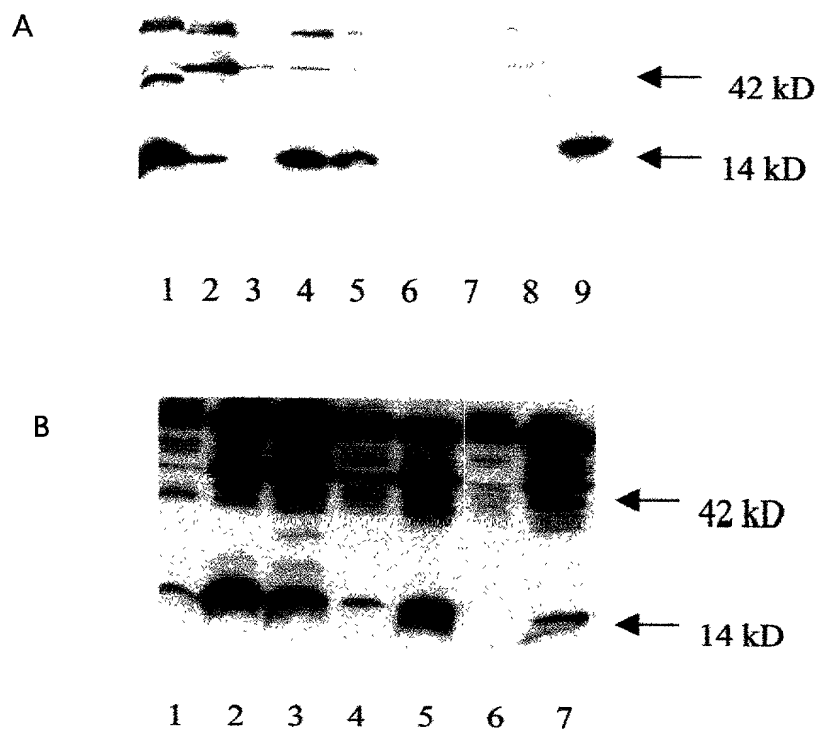


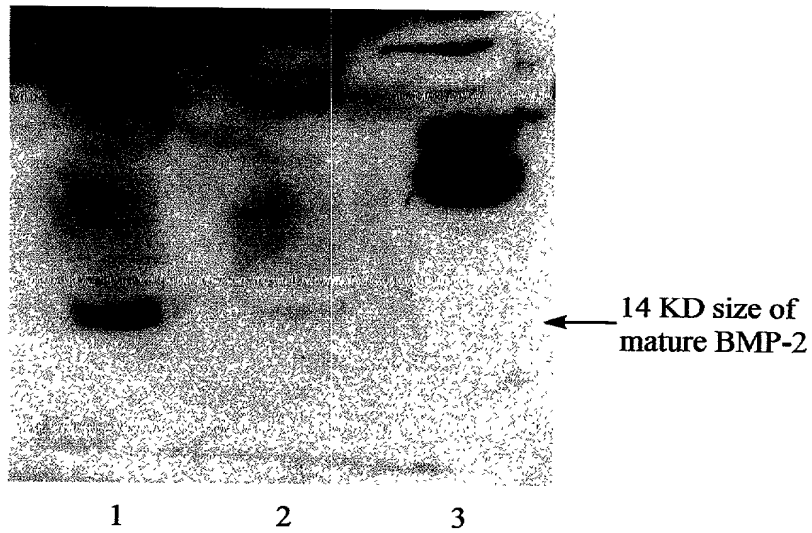
Fig. 6

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Fig. 7

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Western Blot of Serum
Samples of Lung Cancer Patients

Fig. 8

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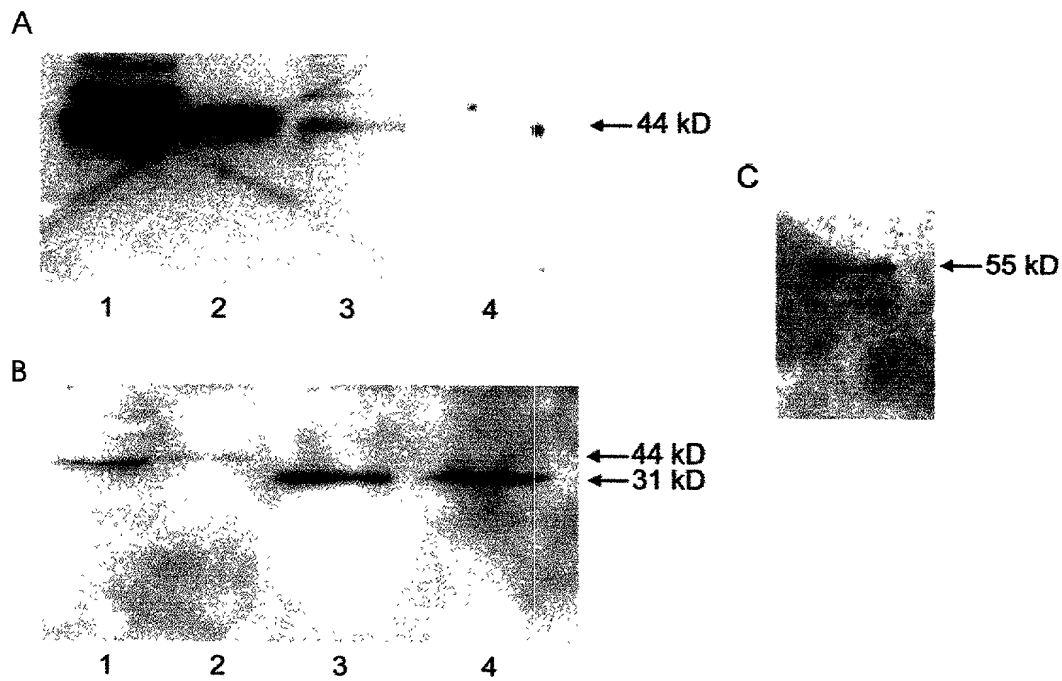


Fig. 9

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BMP-2 ENHANCES BLOOD
FORMATION COMPARED TO
CONTROLS

Fig. 10

204750" STZHHOT

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BMP-2 ENHANCES TUMOR VASCULATURE



CONTROL



BMP-2 TREATED

Fig. 11

BMP-2 REGULATES SONIC HEDGEHOG

A549lysate-100ng Bmp
A549lysate-10ng Bmp
A549lysate-1ng Bmp
A549lysate-500pg Bmp
A549lysate-0Bmp

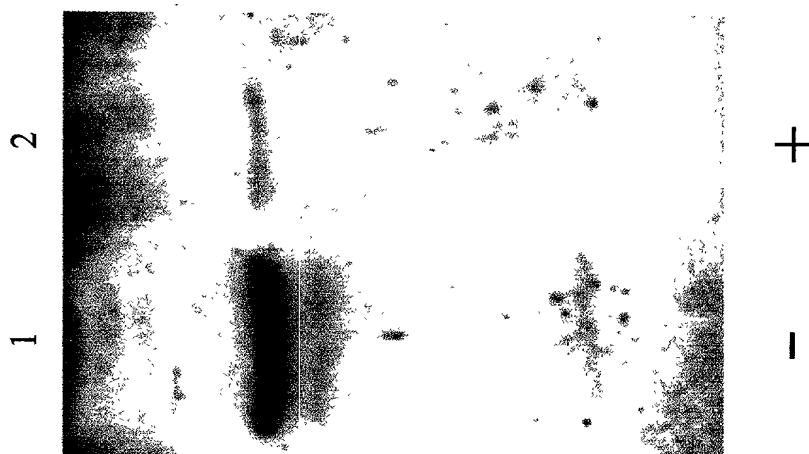
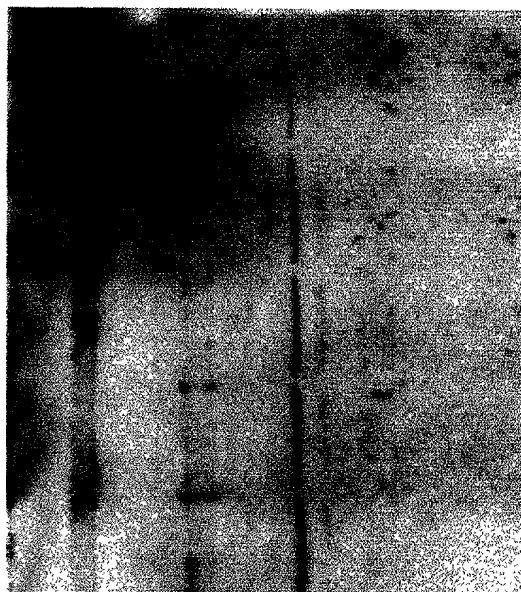


Fig. 12

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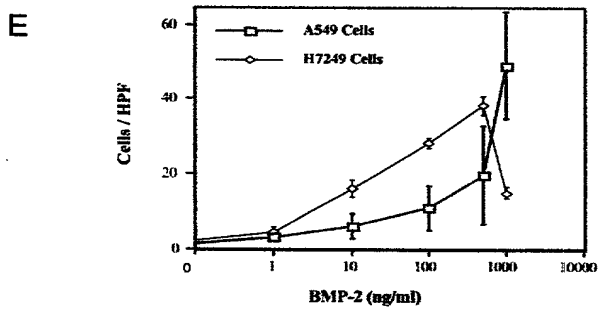
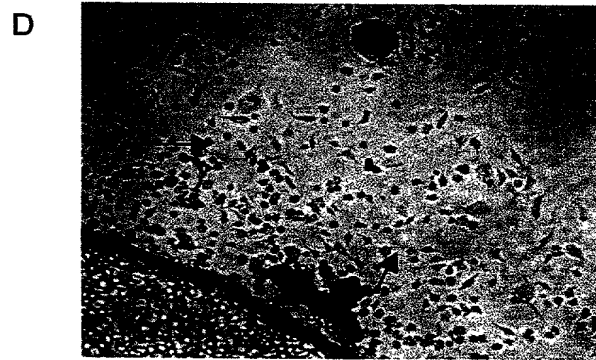
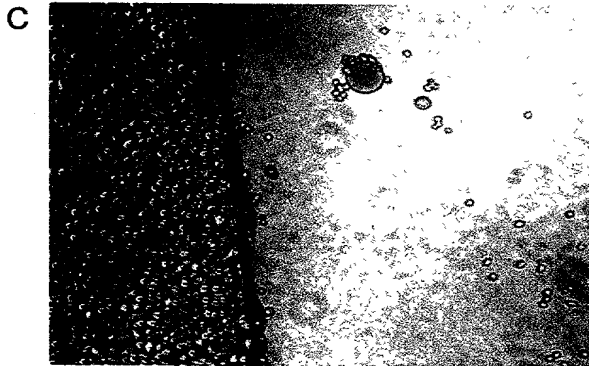
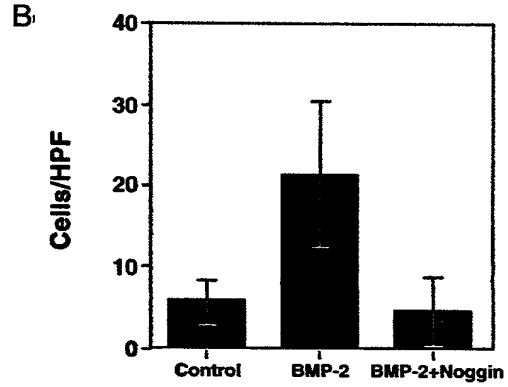
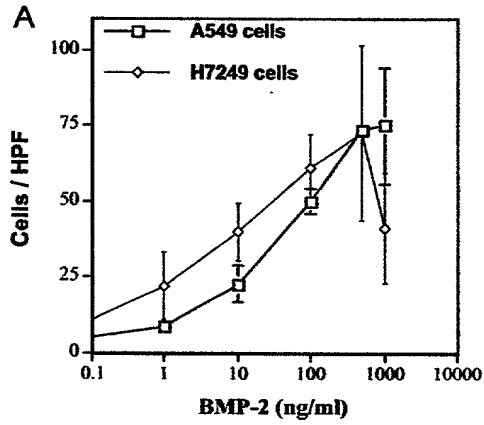
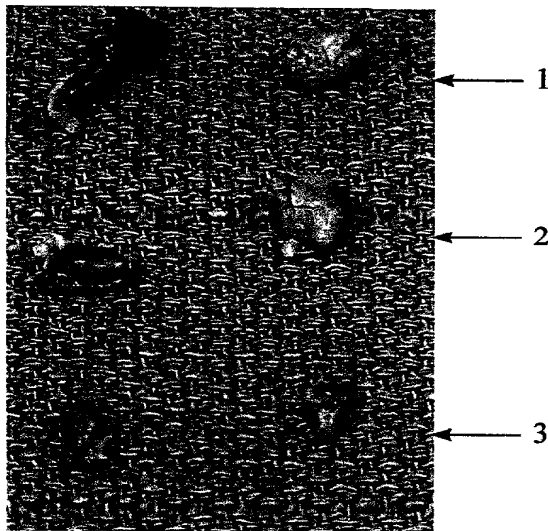


Fig. 13

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control	BMP-2	noggin
100	149±22*	42±4.5*

Table #1: BMP-2 enhances tumor growth, while inhibition of BMP-2 decreases tumor growth. Data is reported as the mean \pm SEM percentage of control. Data was analyzed by one way ANOVA and Newman-Keuls test (* $p<.05$).

Fig. 14

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NOGGIN INHIBITS VEGF EXPRESSION IN THE
A549 LUNG CANCER CELL LINE

A. Western Blot



B. ELISA

	Secreted VEGF (ng/ml)
A540 + PBS	13,333
A549 + 300 ng/ml noggin	9,442
A549 + 500 ng/ml noggin	8,219

Fig. 15